

# PARTICLE COUNTER SENSOR PC3 with HydroACT Series

### **DESCRIPTION**

The PC3 Particle Counter Sensor is an essential tool for municipal and industrial water treatment applications including filter performance monitoring, protecting RO membranes from colloidal fouling, and virtually any application where there is a concern of potential contamination in a clean liquid. The PC3 offers an excellent addition or alternative to other traditional measurements like turbidity (NTU) and Silt Density Index (SDI) testing. Particle counters are best known for their ability to detect when a filter has reached the end of its run well ahead of any impact to NTU readings. The more compact PC3 Particle Counter brings all the great features of Chemtrac's PC3400 model to the HydroACT family of analyzers. Customers can connect multiple sensors to the HydroACT analyzer, or mix and match the PC3 with other measurements like pH, chlorine, and UV254 for organics monitoring. The PC3 allows the user to view up to 3 channels of data in multiple measurement formats including "Total ppb", "Total Counts", and counts or ppb in individual size channels (e.g. 2 to 5 micron, 5 to 10 micron, etc.). Full integration between the sensor and analyzer means all sensor settings, including user-friendly calibration features, can be accessed from the HydroACT's user interface. Contact Chemtrac to discuss your application and let us find the right solution for you.

## STANDARD FEATURES

- Counts particles in liquid from 2-750 microns
- Sizes particles from 2-100 microns
- Up to 3 user programmable size ranges
- Reports total counts, cnts/mL, or cnts/100mL
- User-friendly, menu driven calibration
- Laser & cell condition readout (0-100%)
- External sensor with sapphire optics
- Available with HydroACT analyzer models HA2, HA4, and HA8



#### **BENEFITS**

- Provides a reliable and accurate measurement of particles down to low ppt levels
- Advanced firmware and menu functions eliminates need for external software to perform setup and calibration
- User-friendly calibration routine makes the process fast and simple, and lowers maintenance cost
- External sensor is easy to clean and water is kept away from electronics

## **APPLICATIONS**

Water Treatment
Wastewater Treatment
Reverse Osmosis Pretreatment
Membrane Filtration
Aquatics

Boiler/Condensate Parts Washing Food & Beverage Pharmaceutical Particle Detection

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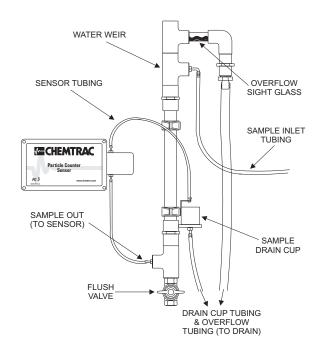
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# **GENERAL SPECIFICATIONS**

#### PARTICLE COUNTER SENSOR

Laser Type	Solid-state laser diode (780nm)	
Cell Material	Nituff coated aluminum	
	PEEK plastic (optional)	
Viewing Windows	Sapphire	
Detection Range	2-750 microns	
Sizing Range	2-100 microns	
Analog Output Type	4-20mA	
Flow Rate	75 mL/min	
Resolution	Better than 10% at 10 micron (ASTM-F658)	
Coincidence Limit	20,000 cnts/mL (2 micron)	
Signal to Noise Ratio	Better than 3:1	
Size Channels	3 user-selectable; each size channel counts	
	as a parameter on HydroACT analyzers	
Alarms	Sensor diagnostic, low cell condition	
Laser Diode Life	MTBF 75,000 hours @ 55° C	
Measurement Type	Light obscuration, volumetric	
Display Readout	Size channel, counts, cell condition (0-100%),	
	laser condition (0-100%), sample period, sample	
	frequency	

# PC3 and Weir set-up



#### **ANALYZER**

HA2 HA4 HA8

Power	100-240 VAC / 0.25 A or 12 VDC / 0.8 A (standard) or 24 VDC (optional)				
Display	4.3", 480x272, 8 bit, grayscale	4.3", 480x272, 24 bit, color			
Sensor Inputs	Up to 2	Up to 4	Up to 8		
Sensor Options	Particle Counter, SCM, UV254 organics, TSS/NTU, DO, Conductivity Free CI, Total CI, Cl Dioxide, Chlorite, Ozone, pH with Temperature, ORP				
External Input (optional)	4-20 mA, 4-20 mA loop-powered, +/- 2000 mV for pH / ORP / ISEs				
Analog Outputs (optional)	Up to 2	Up to 4	Up to 8		
	Menu configurable outputs: 4-20 mA (Note: unused sensor inputs can be used as outputs)				
Relays (optional)	Up to 4	Up to 8	Up to 16		
	SPST, electromechanical, 380 VAC, 6 A max				
Digital Inputs (optional)	Up to 4	Up to 8	Up to 16		
Alarms & Thresholds	2 user-configurable alarms & thresholds with deadband and delay for each parameter and control output				
Control Loops (optional)	Up to 2	Up to 4	Up to 8		
Control Types (optional)	High / Low Threshold	PID (with start delay and SP ramping options), feed forward (NTU/UV), flow pacing, high/low threshold, timer			
Communication (optional)	Modbus ASCII/RTU (RS485), Modbus TCP (Ethernet), PROFIBUS DP				
Data & Event Logging	1,000 event / status records stored in internal memory	1 million records stored internally storage expandable with MicroSD card			
Modem (optional)	None	GSM / GPRS / 3G intergrated modem			
Remote Access (optional)	None	Internet browser access, alerts and reports via email (requires ethernet or modem card)			
Enclosure	ABS flame retardant, NEMA 4X / IP65				
Dimensions & Weight	HA2 & HA4: 9 in (230 mm) x 12.2 in (309 mm) x 4.1 in (103 mm); 4.4 lbs (2 kg) HA8: 18 in (460 mm) x 12.2 in (309 mm) x 4.1 in (103 mm); 4.4 lbs (2 kg)				



**HA2 / HA4** 



HA8